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UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Agricultural Economics

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HANDBOOK OF INSTRUCTIONS

For The

INSTALLATION AND OPERATION

Of The

TAG-HEPPENSTALL MOISTURE METER

---O---

Prepared by

D. A. Coleman and H. C. Fellows

Milling & Baking Investigations Section

Grain Division

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INSTRUCTIONS FOR THE INSTALLATION AND OPERATION OF THE
TAG-HEPPENSTALL MOISTURE METER

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--- KEEP YOUR FINGERS OUT OF ELECTRODE HOPPER ---

1. The Tag-Heppenstall Moisture Meter, a photograph of which is shown in Figure 1, consists of three essential parts--a resistance measuring device, to the left in the figure, a pair of motorized roll electrodes, to the right in the figure, and a sensitive and accurately calibrated thermometer.

2. Select a place for installing the apparatus reasonably free from sizable or sudden changes in temperature. The room in which Brown-Duvel moisture testers are being used or areas near windows where moisture (outside rain) or sudden hot and cold drafts can enter, should be avoided.

3. The table or bench upon which the electric moisture tester is to be located should be level and supplied, preferably, with an electrical outlet from a power line for connection with the motorized electrodes.

4. Attach the roll electrodes firmly on the edge of a bench or table and place the meter case to the left a few inches away and back from the edge of the table so that the dial switch can be conveniently turned with the left hand. Connect the roll electrodes to the resistance measuring box by inserting one end of each of the two cables (furnished with the instrument) into the stud posts attached to each electrode. The other ends of the cables are inserted into the binding posts (X) of the resistance measuring box. A diagram of the top of the resistance box is shown as Figure 2. As the circuit can be completed without regard to the polarity of the binding posts no attention need be paid to which binding post is connected to either of the two cable ends.

5. See that the proper shim is in position in back of the idle roll in order to gauge the specified roll setting; also see that the shim is drawn tightly into place. The nuts on the face of the electrode housing mechanism accomplishes this. Use the shim as specified for that particular grain or seed as shown on the charts.

6. Attach the lead-in wire of the motor to the electric wall outlet.

7. CONSULT FIGURE 2. With the dial switch DS on the OFF position, determine whether the needle N of the microameter M is exactly on zero. If not use the adjustment screw Z at the top of the microameter panel to make the correction.

8. Standardize the current conditions in the microameter circuit by turning the dial switch DS to dial S. The needle should swing immediately to point 50 on the microameter scale. The exact point to which the needle should deflect is indicated by a red line passing thru scale division 50. If the needle does not deflect it is because it is locked by means of the rheostat. To release, turn the rheostat knob (R) counter clockwise. If the needle does not coincide exactly with the red line, it is made to do so by turning the rheostat knob R to the right or left until the line and needle coincide. Current standardization having been accomplished, the needle should remain on the red line without evidence of drifting.

9. Should drifting of the needle from point 50 be apparent, it is evidence that the battery voltage is low and that the batteries are in need of replacement. This can be confirmed by restandardizing the current using dial T. Dial T provides for a greater current drain and makes the drifting feature more pronounced.

10. Providing the instructions given in items 1 through 9 have been followed, the Tag-Heppenstall Moisture Meter is now ready for operation.

11. It is assumed that for the purposes of moisture testing that the grain or seeds are representative of the mass whose moisture content is to be determined, and that sampling has been accomplished according to the instructions laid down in the Handbook of Official Grain Standards of the United States (U.S.G.S.A. Form 90, revised January 1929), pages 71 to 73 inclusive, paying particular attention to item I.

12. Insert a thermometer into the body of the grain whose moisture content is to be determined and note the temperature. A minute is sufficient, if using a sensitive thermometer. As a point of practical operative technique the thermometer is usually inserted into the body of the grain before current standardizing is accomplished. Following such a procedure, the grain is ready for testing when the device is ready for operation.

13. Thermometers graduated from 20° F. to 120° F. in 1 degree units, accurate to 1/2 degree Fahrenheit, will cover the range of temperature usually met with in grain inspection service.

14. Place a quantity of the grain to be tested for moisture content into the hopper of the electrode device. If sufficient material is available, fill the hopper, if not, use at least 100 grams in order

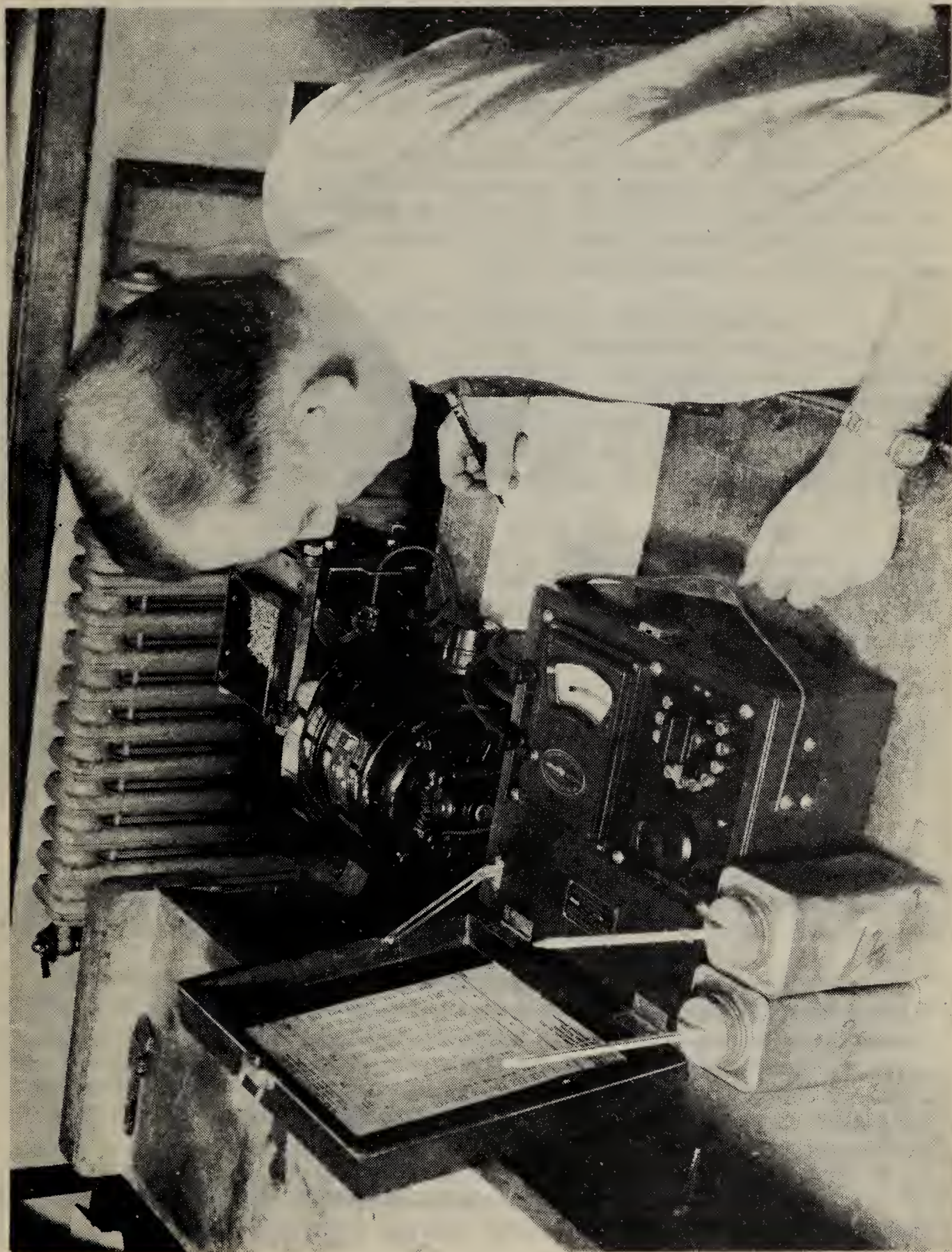


Figure 1.

to obtain a satisfactory reading. With the hopper two-thirds to full of material, there is rarely any need for a subsequent passage of the grain through the rolls to confirm the first reading. However, with some experience and with careful operation so that the proper dial for making the microameter reading is quickly determined, moisture determinations can be made on as little as 25 grams of material.

15. With the material in the hopper, start the motor, and as the sample passes between the electrodes the dial switch DS is quickly turned from dial A to dial H, or until a deflection of the microameter needle reading between 0 and 30 is obtained. The dial setting and average needle deflection are noted.

16. The microameter installed in the resistance measuring box is a single pivot instrument. For this reason, especially in order to overcome inertia when small amounts of current are flowing (this is particularly true on the G and H dials), the lower part of the microameter panel should be gently tapped with the forefinger while the test is being made. It is imperative that this be done for readings taken on dials G and H if correct results are desired.

17. On occasions the grain will not be seized by the corrugated rolls. When this happens give a slight clockwise turn to the small bakelite knob attached to the gudgeon of the idle roll and free feeding will take place almost without exception. Use of the bakelite knob is frequently necessary with corn.

18. The moisture content is determined by reading the intersection of these two values on the conversion charts prepared for use with each grain and seed and which are given on pages 11 to 27 of this circular.

19. Until the operator becomes adept, he is advised to seize some of the sample between the electrodes by quickly starting and stopping the motor. The dial switch may then be adjusted to the proper setting without losing any of the sample. However, the final microameter reading is to be made only when the electrode rolls are turning.

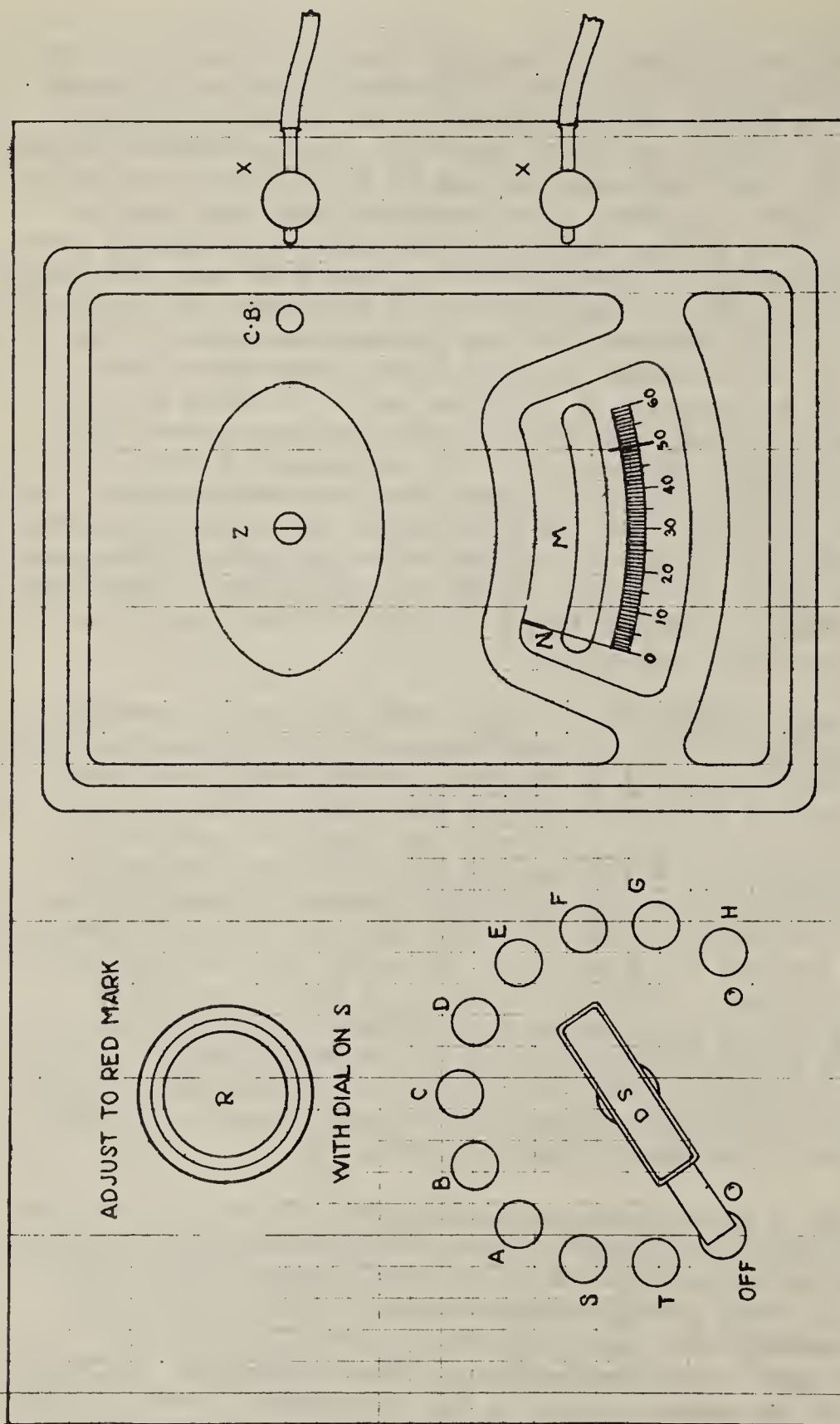
20. As electrical resistance measurements are influenced by variations in temperature, the resistance box readings have to be converted to a common temperature level for comparative purposes. The point in common usage is 77° F. Thus, before a final statement of the moisture content of the sample can be made, corrections for temperature must be applied according to the directions given on each conversion chart.

21. An example of the operative procedure to complete a moisture test is as follows:

Suppose the dial setting is D and the needle deflection is 25; the grain to be tested is of the hard red winter class; the temperature of the grain is 73° F. Turn to Chart I, the conversion chart for hard red winter wheat, and locate under the heading "Meter reading" the figure 25. This will be between 24 and 26 in the third column to the right in the chart, as column 2 is calibrated only for dial H. Follow across the chart to the right until the column is reached under the letter D. The moisture figure shown in column D at this point (25) is 14.35% and would be the moisture content of the sample if the test had been made at 77° F. According to the instructions given at the top of Chart I, for every degree in grain temperature below 77° F. a certain fraction of a percentum of moisture has to be added to the chart reading, while if the temperature of the grain is above 77° F. the same fractional amount of moisture must be subtracted from the chart reading. This value varies slightly for the several dials. For dial D this value is 0.05%. Now the temperature of the grain, in the example, was given as 73° F., four degrees below the chart conversion point temperature of 77° F. It is, therefore, necessary to add 0.20% to the table moisture content of 14.35, because 4×0.05 equals 0.20. Thus, the correct moisture percentage is 14.55%.

22. With some samples of grain and seeds the needle sometimes oscillates widely, and if readings are being made at the upper end of the microameter scale, i.e., 35 to 45, most of the sample will have passed through the roll electrodes before the needle has acquired equilibrium. In such instances, the readings should be made using the next highest dial, F to E for example, and the final reading expressed as a function of the original dial reading by multiplying by 3. To illustrate, suppose the resistance reading was registering around F 40, and trouble was experienced in making the reading due to wide needle fluctuations. Move the switch from dial F to dial E which will read E 13-1/3 and convert to the F dial reading by multiplying by 3, viz., F 40.0. This is because each resistor and/or dial has 3 times the resistance of the one before it in the direction of A to H. Operative conditions of this nature occur occasionally with oats, garlicky grain, and weevil-infested grain.

23. The use of the Tag-Heppenstall Moisture Meter for determining the moisture content of garlicky grain requires some skill as well as careful attention to operative details, particularly with heavy garlicky material. When making tests with this type of grain, the procedure is to quickly start and stop the motorized electrodes especially after each violent deflection of the microameter needle in order to permit of the prompt return of the microameter needle to the proper scale division area. When a segment of the grain, while passing through, is developing a steady microameter reading, stop the motor with the grain still in seizure between the rolls and immediately



- LEGEND
- D.S.- DIAL SWITCH
 - R - RHEOSTAT
 - Z - ZERO ADJUSTING SCREW
 - X - TERMINALS
 - N - NEEDLE
 - M - MICROAMMETER SCALE
 - C.B.- AUTOMATIC CIRCUIT BREAKER

Figure 2.

make the resistance reading. Repeat this procedure several times to be sure of the reading. With garlicky grain use a dial setting that will permit of a narrow deflection of the microameter needle and convert as discussed in item 20. With garlicky grain, it is sometimes advantageous to have an additional lot of grain for checking purposes.

24. If the garlicky grain is not too heavily admixed with garlic bulblets and a weighed quantity of grain is used, a count of the number of noted deflections of the microameter needle is a reliable indicator of the number of garlic bulblets present.

25. Grain that is weevil-infested is tested for moisture in the manner described for garlicky grain. A weevily kernel count can be made in the same way as for garlic bulblets.

26. When determining the moisture content of oats, make the resistance reading with the hopper one-half to full of oats, because when resistance readings are made with the hopper filled only one-half to nearly empty low resistance readings are usually recorded.

27. Western oats and barley (Pacific Coast), on account of their shape and larger size, require the use of conversion charts other than those made for oats and barley grown east of the Rocky Mountains. Consult Charts VII and IX.

28. With samples of hard red spring, hard red winter, and durum wheat of outstanding chalky or soft appearance, use the conversion chart for soft red winter wheat to ascertain the moisture content.

29. Although the "small grains" idle roll can be used in the determination for the moisture content of corn (see Chart X for conversion data) with the aid of a wooden paddle with which the corn is fed to the rolls, more satisfactory results are obtained by use of a special corn roll. This roll is inserted in the place of the small grains roll by loosening the nuts on the face of the electrode housing. Regardless of the type of idle roll used, the proper roll spacing is insured by the insertion of the corn shims. A different conversion chart has to be referred to when the corn roll is used (see Chart XI).

30. The corn roll is also used for determining the moisture content of some soybeans. The wheat shim is used with the small sized varieties such as Laredo, Virginia Brown, and Wilson; while a special shim marked "Soybeans" is used when determining the moisture content of the large varieties such as Mamouth, Yellow, Biloxi, etc. Consult Charts XV and XVI for the varieties in question.

31. To avoid the delay incident to the changing of rolls for the purposes of determining the moisture content of corn and soybeans it is very helpful if a second motorized electrode device is available. For this purpose it is not necessary to have a second resistance measuring box as both electrodes can be operated independently (not simultaneously) from the one resistance box by means of a double pole-double throw switch. (The switch for opening the high potential side of the meter line should have "resistance to ground" of not less than 1000 megohms. Leeds & Northrup Company's No. 3299, or equal, will serve.) However, if the expense of purchase of a double pole-double throw switch is prohibitive, a single pole-double throw switch can be conveniently used by wiring the installation as shown in Figure 3. By running a line from each of the insulated roll terminals to one of the posts on the meter, and by connecting the second post of the meter to the common post of a single pole-double throw switch, and connecting each of the switch terminals to the ground post of each set of electrodes, any common type of single pole-double throw switch of low insulation may be used. There will be no leakage between the common post of the switch and the open terminal as the opposite terminal is grounded.

32. Care of the instrument:

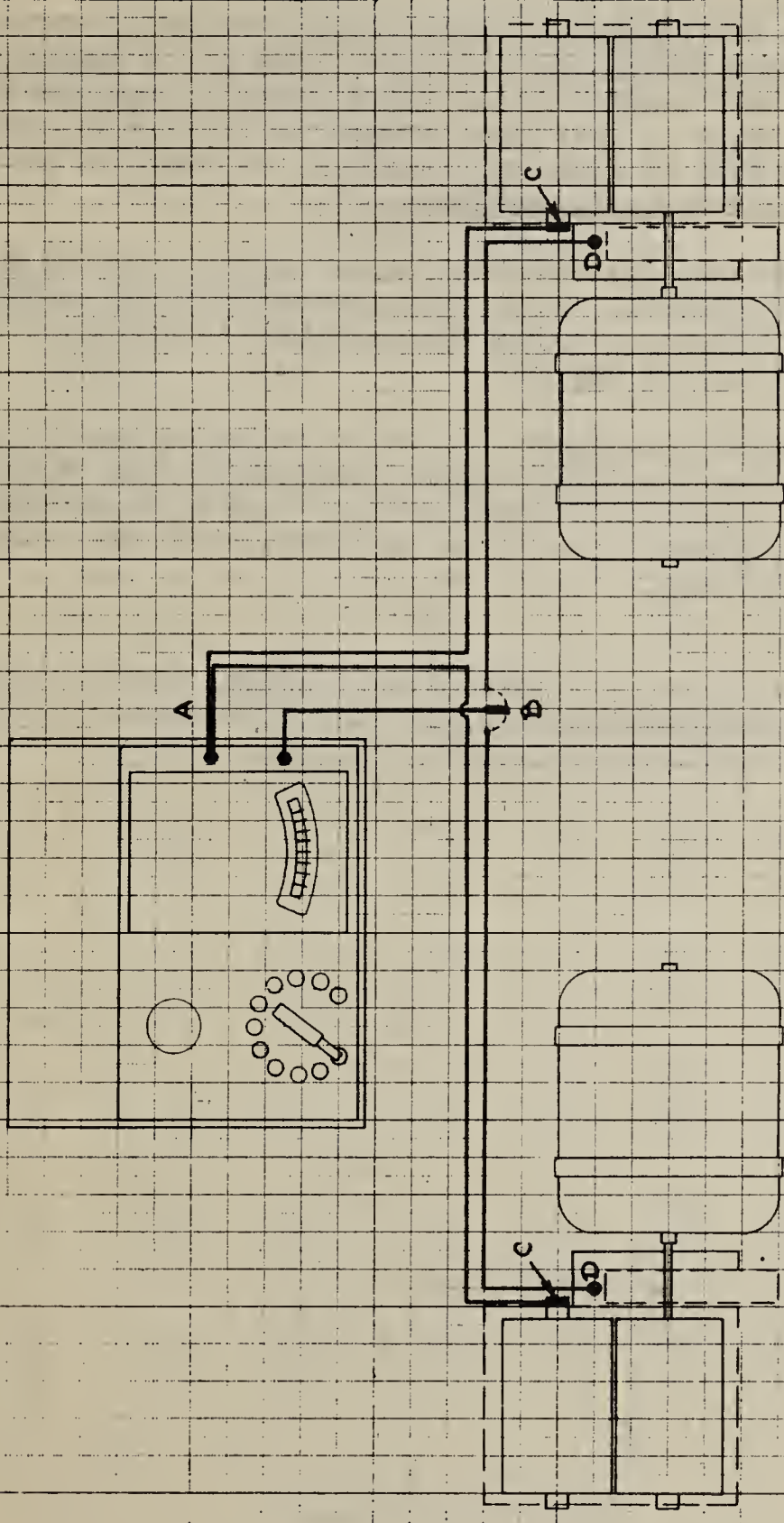
(a) Handle the meter case containing the microammeter with care. The microammeter is extremely sensitive and while it is rugged enough to withstand shock without injury, it will not stand dropping of the case or repeated violent jarring.

(b) An occasional drop of light grade machine oil applied where the dial switch DS pivots, an occasional oiling of the motor, and semi-annual filling of the grease cups on the electrode bearings is all the lubricating service the Tag-Heppenstall Moisture Meter needs.

(c) New batteries can be easily and conveniently installed by opening the hinged panel on the bottom of the resistance measuring box. Battery life, with average use of the meter, is about ten months.

(d) With very moist grain, meal sometimes packs in the roll corrugations. This is not of significance and will usually wear off. However, if it is desired to remove this material never use a wire brush. Such a practice will eventually change the pitch of the roll corrugations and will result in a change of roll spacing with accompanying low moisture test results. Such accumulations can usually be removed by passing a quantity of dry hard wheat through the rolls following with a light brushing with a semi-hard fiber brush.

WIRING DIAGRAM - TAG-HEPPENSTALL MOISTURE METER Showing connections for use of two electrode devices and one meter box



- A - Run both lines to binding post on meter to avoid difficulty in insulating soldered joint.
 - B - Single pole, double throw switch.
 - C - Insulated roll terminal.
 - D - Ground post.
- [ALL PERMANENT CONNECTIONS]

Figure 3.

(e) The Tag-Heppenstall device will eventually be calibrated for flaxseed. After making tests with this seed it is imperative that the linseed meal be removed from the rolls as the linseed oil which is pressed from the seeds as they pass through the rolls will oxidize and form a hard paste over as well as in the roll corrugations making removal from the rolls extremely difficult.

(f) When the moisture meter is not in use turn the dial switch to the off position. Never leave the dial switch on dials T or S for more than a minute or so, if this practice is persisted in, the batteries will be rapidly used up.

(g) When the instrument is not to be in use for an extended period, clean the rolls and smear clear vaseline on them or a thin film of pure oil. If the instrument is to be set aside for six months or more it is advisable to remove the batteries which are ordinarily good for about one year.

NOTE: The following charts supersede all previous charts issued prior to this date, or during the period that the calibration studies of the Tag-Heppenstall Moisture Meter were in progress.

CONVERSION CHART I — HARD RED WINTER WHEAT

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Wheat"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
7.3	1	14	10.6	11.6	12.6	13.7	14.9	16.2	17.8
7.6	1.5	16	10.7	11.8	12.8	13.9	15.1	16.4	18.0
7.9	2	18	10.8	11.9	12.9	14.0	15.2	16.5	18.2
8.3	3	20	10.9	12.0	13.0	14.1	15.3	16.7	18.4
8.6	4	22	11.0	12.1	13.1	14.2	15.4	16.8	18.6
8.8	5	24	11.1	12.1	13.2	14.3	15.5	16.9	18.7
8.9	6	26	11.2	12.2	13.2	14.4	15.6	17.0	18.9
9.1	7	28	11.3	12.3	13.3	14.5	15.7	17.1	19.1
9.2	8	30	11.3	12.3	13.4	14.6	15.8	17.2	19.3
9.3	9	32	11.4	12.4	13.5	14.7	15.9	17.3	19.4
9.4	10	34	11.4	12.4	13.5	14.7	16.0	17.4	19.6
9.6	12.5	36	11.5	12.5	13.6	14.8	16.1	17.5	19.8
9.7	15	38	11.5	12.5	13.6	14.8	16.1	17.6	20.0
10.0	20	40	11.6	12.6	13.7	14.9	16.2	17.7	20.1
10.2	25	42	11.6	12.6	13.7	14.9	16.2	17.8	20.4
10.3	30	44	11.7	12.7	13.8	15.0	16.3	17.8	20.6
10.4	35	46	11.7	12.7	13.8	15.0	16.3	17.9	20.8
10.5	40	48	11.8	12.8	13.9	15.1	16.4	18.0	21.1
10.6	45	50	11.8	12.8	13.9	15.1	16.4	18.0	21.4
10.7	50	55	11.9	12.9	14.0	15.2	16.5	18.2	22.3
10.9	60	60	12.0	13.0	14.1	15.3	16.7	18.4	23.7
Temperature correction									
.04			.04	.05	.05	.05	.05	.06	.06

CONVERSION CHART II — SOFT RED WINTER WHEAT

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Wheat"

Dial H	Meter reading		Dial						
			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
7.7	1	14	10.9	11.9	13.0	14.1	15.3	16.5	18.2
8.2	2	16	11.0	12.1	13.2	14.3	15.4	16.7	18.5
8.5	3	18	11.1	12.2	13.3	14.4	15.5	16.9	18.7
8.7	4	20	11.2	12.3	13.4	14.5	15.6	17.1	18.9
8.9	5	22	11.3	12.4	13.5	14.6	15.7	17.2	19.2
9.0	6	24	11.4	12.5	13.6	14.7	15.8	17.3	19.4
9.2	7	26	11.5	12.6	13.7	14.8	15.9	17.4	19.6
9.3	8	28	11.5	12.6	13.8	14.8	16.0	17.5	19.8
9.4	9	30	11.6	12.7	13.8	14.9	16.1	17.6	20.0
9.5	10	32	11.6	12.7	13.9	15.0	16.2	17.7	20.2
9.6	11	34	11.7	12.8	13.9	15.0	16.3	17.8	20.4
9.8	13	36	11.8	12.9	14.0	15.1	16.4	17.9	20.6
10.0	15	38	11.8	12.9	14.0	15.2	16.4	18.0	20.8
10.2	20	40	11.9	13.0	14.1	15.2	16.5	18.1	21.0
10.4	25	42	11.9	13.0	14.1	15.3	16.5	18.2	21.3
10.6	30	44	12.0	13.1	14.2	15.3	16.6	18.3	21.5
10.7	35	46	12.0	13.1	14.2	15.4	16.6	18.4	21.7
10.8	40	48	12.1	13.2	14.3	15.4	16.7	18.5	21.9
10.9	45	50	12.1	13.2	14.3	15.4	16.8	18.6	22.2
11.0	50	55	12.2	13.3	14.4	15.5	16.9	18.7	22.9
11.2	60	60	12.3	13.4	14.5	15.6	17.1	18.9	23.8
Temperature correction									
.04			.04	.04	.05	.05	.05	.05	.05

CONVERSION CHART III-HARD RED SPRING WHEAT & COMMON WHITE WHEATS

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Wheat"

Dial H	Meter reading		Dial						
			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Per cent moisture						
7.2	1	14	10.9	11.8	12.8	13.9	15.1	16.3	17.8
7.9	2	16	11.0	12.0	13.0	14.1	15.2	16.5	18.1
8.3	3	18	11.1	12.1	13.1	14.2	15.4	16.7	18.3
8.6	4	20	11.2	12.2	13.2	14.3	15.5	16.8	18.4
8.8	5	22	11.3	12.3	13.3	14.4	15.6	16.9	18.6
9.0	6	24	11.3	12.4	13.4	14.5	15.7	17.0	18.8
9.1	7	26	11.4	12.4	13.5	14.6	15.8	17.1	19.0
9.4	9	28	11.5	12.5	13.5	14.7	15.9	17.2	19.1
9.5	10	30	11.5	12.5	13.6	14.7	16.0	17.3	19.3
9.7	12.5	32	11.6	12.6	13.6	14.8	16.0	17.4	19.4
9.9	15	34	11.6	12.6	13.7	14.9	16.1	17.5	19.6
10.0	17	36	11.7	12.7	13.7	14.9	16.2	17.6	19.8
10.2	20	38	11.7	12.7	13.8	15.0	16.2	17.6	20.0
10.4	23	40	11.8	12.8	13.9	15.0	16.3	17.7	20.2
10.5	27	42	11.8	12.8	13.9	15.1	16.3	17.8	20.4
10.6	30	44	11.9	12.9	14.0	15.1	16.4	17.9	20.6
10.7	35	46	11.9	12.9	14.0	15.2	16.5	17.9	20.8
10.8	40	48	12.0	13.0	14.1	15.2	16.5	18.0	21.1
10.9	45	50	12.0	13.0	14.1	15.3	16.6	18.1	21.4
11.0	50	55	12.1	13.1	14.2	15.4	16.7	18.3	22.2
11.2	60	60	12.2	13.2	14.3	15.5	16.8	18.4	23.7
Temperature correction									
.04			.04	.05	.05	.05	.05	.06	.06

CONVERSION CHART IV—DURUM WHEAT

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Wheat"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
7.4	1	14	10.6	11.6	12.5	13.7	14.9	16.3	18.0
7.7	1.5	16	10.7	11.7	12.7	13.9	15.1	16.5	18.3
7.9	2	18	10.8	11.8	12.8	14.0	15.2	16.6	18.6
8.2	3	20	10.9	11.9	12.9	14.1	15.3	16.8	18.8
8.4	4	22	11.0	12.0	13.0	14.2	15.5	16.9	19.0
8.6	5	24	11.0	12.0	13.1	14.3	15.6	17.0	19.2
8.8	6	26	11.1	12.1	13.2	14.4	15.7	17.2	19.4
8.9	7	28	11.2	12.2	13.3	14.5	15.8	17.3	19.6
9.0	8	30	11.2	12.2	13.3	14.5	15.9	17.4	19.9
9.1	9	32	11.3	12.3	13.4	14.6	15.9	17.6	20.1
9.2	10	34	11.4	12.3	13.4	14.7	16.0	17.7	20.4
9.4	12.5	36	11.4	12.4	13.5	14.7	16.1	17.8	20.6
9.6	15	38	11.5	12.4	13.6	14.8	16.2	17.9	20.9
9.8	20	40	11.5	12.5	13.6	14.8	16.3	18.0	21.2
10.0	25	42	11.6	12.5	13.7	14.9	16.3	18.0	21.5
10.2	30	44	11.6	12.6	13.7	15.0	16.4	18.1	21.9
10.4	35	46	11.6	12.6	13.8	15.0	16.4	18.2	22.3
10.5	40	48	11.7	12.7	13.9	15.1	16.5	18.3	22.7
10.6	45	50	11.7	12.7	13.9	15.1	16.5	18.4	23.0
10.7	50	55	11.8	12.8	14.0	15.2	16.7	18.6	24.0
10.9	60	60	11.9	12.9	14.1	15.3	16.8	18.8	25.4
Temperature correction									
.04			.04	.04	.05	.05	.05	.05	.06

CONVERSION CHART V - RYE

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Rye"

Dial H	Meter reading		Dial						
			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
7.7	1	14	11.1	12.2	13.2	14.4	15.6	17.0	18.8
8.1	2	16	11.2	12.3	13.4	14.5	15.7	17.2	19.1
8.3	2.5	18	11.3	12.4	13.5	14.6	15.9	17.4	19.4
8.5	3	20	11.4	12.5	13.6	14.7	16.0	17.5	19.6
8.7	4	22	11.5	12.6	13.7	14.8	16.1	17.6	19.8
8.9	5	24	11.6	12.7	13.8	14.9	16.2	17.8	20.0
9.1	6	26	11.7	12.8	13.9	15.0	16.3	17.9	20.2
9.3	7	28	11.8	12.8	14.0	15.1	16.4	18.1	20.4
9.4	8	30	11.8	12.9	14.0	15.2	16.5	18.2	20.6
9.6	10	32	11.9	13.0	14.1	15.3	16.6	18.3	20.8
9.8	12.5	34	12.0	13.0	14.1	15.3	16.7	18.4	21.0
10.0	15	36	12.0	13.1	14.2	15.4	16.7	18.5	21.2
10.2	18	38	12.1	13.1	14.3	15.5	16.8	18.6	21.4
10.3	20	40	12.1	13.2	14.3	15.5	16.9	18.7	21.6
10.5	25	42	12.2	13.2	14.4	15.6	17.0	18.8	21.8
10.7	30	44	12.2	13.3	14.4	15.6	17.0	18.9	22.0
10.9	35	46	12.3	13.3	14.5	15.7	17.1	19.0	22.2
11.0	40	48	12.3	13.4	14.5	15.7	17.2	19.1	22.4
11.1	45	50	12.3	13.4	14.5	15.8	17.2	19.2	22.6
11.2	50	55	12.4	13.5	14.6	15.9	17.4	19.4	23.1
11.4	60	60	12.5	13.6	14.7	16.0	17.5	19.6	23.6
Temperature correction									
.04			.04	.04	.05	.05	.05	.05	.06

CONVERSION CHART VI — EASTERN BARLEY

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Barley"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
6.7	1	14	10.2	11.2	12.2	13.3	14.4	15.8	17.7
7.1	1.5	16	10.4	11.4	12.3	13.5	14.6	16.0	17.9
7.4	2	18	10.5	11.5	12.4	13.6	14.8	16.2	18.2
7.8	3	20	10.6	11.6	12.5	13.7	14.9	16.3	18.5
7.9	3.5	22	10.7	11.7	12.6	13.8	15.0	16.5	18.8
8.0	4	24	10.7	11.7	12.7	13.9	15.1	16.6	19.0
8.2	5	26	10.8	11.8	12.8	14.0	15.2	16.8	19.3
8.4	6	28	10.9	11.9	12.8	14.0	15.3	16.9	19.5
8.6	7	30	10.9	11.9	12.9	14.1	15.4	17.0	19.8
8.7	8	32	11.0	12.0	13.0	14.1	15.5	17.1	20.1
8.9	10	34	11.0	12.0	13.1	14.2	15.6	17.2	20.4
9.1	12.5	36	11.1	12.1	13.2	14.2	15.6	17.3	20.7
9.3	15	38	11.1	12.1	13.2	14.3	15.7	17.5	21.0
9.6	20	40	11.2	12.2	13.3	14.4	15.8	17.6	21.3
9.8	25	42	11.2	12.2	13.3	14.4	15.8	17.7	21.7
9.9	30	44	11.3	12.3	13.4	14.5	15.9	17.8	22.0
10.1	35	46	11.3	12.3	13.4	14.5	16.0	17.8	22.3
10.2	40	48	11.4	12.3	13.5	14.6	16.0	17.9	22.7
10.3	45	50	11.4	12.4	13.5	14.6	16.1	18.0	23.0
10.4	50	55	11.5	12.4	13.6	14.8	16.2	18.2	24.0
10.6	60	60	11.6	12.5	13.7	14.9	16.3	18.5	25.0
Temperature correction									
.04			.04	.05	.05	.06	.06	.06	.06

CONVERSION CHART VII — WESTERN BARLEY (Pacific Coast)

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Barley"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
6.5	1	14	9.9	10.8	11.8	12.9	14.1	15.5	17.5
6.9	1.5	16	10.0	11.0	12.0	13.1	14.3	15.7	17.7
7.3	2	18	10.1	11.1	12.1	13.2	14.4	15.9	18.0
7.6	3	20	10.2	11.2	12.2	13.3	14.5	16.0	18.3
7.7	3.5	22	10.3	11.3	12.3	13.4	14.6	16.2	18.6
7.8	4	24	10.4	11.3	12.4	13.5	14.7	16.3	18.8
8.0	5	26	10.4	11.4	12.5	13.6	14.8	16.5	19.1
8.2	6	28	10.5	11.5	12.5	13.7	14.9	16.6	19.3
8.4	7	30	10.5	11.5	12.6	13.8	15.0	16.7	19.6
8.5	8	32	10.6	11.6	12.6	13.8	15.1	16.8	19.9
8.7	10	34	10.6	11.6	12.7	13.9	15.2	17.0	20.2
8.9	12.5	36	10.7	11.7	12.7	13.9	15.3	17.1	20.5
9.1	15	38	10.7	11.7	12.8	14.0	15.4	17.2	20.7
9.3	20	40	10.8	11.8	12.8	14.0	15.4	17.3	21.0
9.5	25	42	10.8	11.8	12.9	14.1	15.5	17.4	21.3
9.6	30	44	10.9	11.9	12.9	14.1	15.5	17.5	21.6
9.8	35	46	11.0	11.9	13.0	14.2	15.6	17.6	21.9
9.9	40	48	11.1	12.0	13.1	14.3	15.7	17.7	22.2
10.0	45	50	11.1	12.0	13.1	14.4	15.8	17.9	22.5
10.1	50	55	11.2	12.1	13.2	14.5	15.9	18.1	23.4
10.3	60	60	11.2	12.1	13.2	14.6	16.0	18.3	24.9
Temperature correction									
.04			.04	.05	.05	.06	.06	.06	.06

CONVERSION CHART VIII — EASTERN OATS

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Oats"

(Make readings with hopper one-half to full)

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
8.0	1	14	10.6	11.6	12.6	13.8	15.0	16.4	18.1
8.2	2	16	10.7	11.7	12.8	14.0	15.2	16.6	18.3
8.5	3	18	10.8	11.8	12.9	14.1	15.4	16.8	18.6
8.7	4	20	10.9	11.9	13.0	14.2	15.5	16.9	18.7
8.9	5	22	11.0	12.0	13.1	14.3	15.6	17.1	18.9
9.0	6	24	11.1	12.0	13.2	14.4	15.7	17.2	19.1
9.1	7	26	11.2	12.1	13.2	14.5	15.8	17.3	19.2
9.2	8	28	11.2	12.2	13.3	14.6	15.9	17.4	19.4
9.3	9	30	11.3	12.3	13.4	14.6	16.0	17.5	19.6
9.4	10	32	11.3	12.3	13.4	14.7	16.1	17.6	19.7
9.6	12.5	34	11.4	12.4	13.5	14.8	16.1	17.7	19.9
9.7	15	36	11.4	12.4	13.6	14.8	16.2	17.8	20.0
9.9	18	38	11.5	12.5	13.6	14.9	16.3	17.9	20.2
10.0	20	40	11.5	12.5	13.7	15.0	16.4	18.0	20.3
10.2	25	42	11.6	12.6	13.8	15.0	16.4	18.1	20.4
10.3	30	44	11.6	12.6	13.8	15.1	16.5	18.2	20.6
10.4	35	46	11.7	12.7	13.9	15.1	16.6	18.2	20.7
10.6	40	48	11.7	12.8	14.0	15.2	16.6	18.3	20.9
10.7	45	50	11.8	12.8	14.0	15.3	16.7	18.4	21.1
10.8	50	55	11.8	12.9	14.1	15.4	16.8	18.6	21.4
10.9	60	60	11.9	13.0	14.2	15.5	16.9	18.7	21.7
Temperature correction									
.04			.04	.04	.04	.04	.04	.04	.05

CONVERSION CHART IX — WESTERN OATS (Pacific Coast)

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Oats"

(Make readings with hopper one-half to full)

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
8.2	1	14	11.0	12.1	13.0	14.2	15.3	16.6	18.3
8.4	2	16	11.1	12.2	13.2	14.4	15.5	16.8	18.5
8.7	3	18	11.2	12.3	13.3	14.5	15.6	17.0	18.7
8.9	4	20	11.3	12.4	13.4	14.6	15.7	17.1	18.9
9.1	5	22	11.4	12.5	13.5	14.7	15.8	17.3	19.1
9.3	6	24	11.5	12.6	13.6	14.8	15.9	17.4	19.3
9.4	7	26	11.6	12.6	13.7	14.9	16.0	17.5	19.4
9.5	8	28	11.7	12.7	13.8	15.0	16.1	17.6	19.6
9.6	9	30	11.8	12.7	13.9	15.0	16.2	17.7	19.8
9.7	10	32	11.8	12.8	13.9	15.1	16.3	17.8	19.9
9.9	12.5	34	11.9	12.8	14.0	15.1	16.4	17.9	20.1
10.0	15	36	11.9	12.9	14.0	15.2	16.4	18.0	20.2
10.2	18	38	12.0	12.9	14.1	15.2	16.5	18.1	20.4
10.3	20	40	12.0	13.0	14.1	15.3	16.5	18.2	20.5
10.5	25	42	12.1	13.0	14.2	15.3	16.6	18.3	20.6
10.7	30	44	12.1	13.1	14.2	15.4	16.6	18.4	20.8
10.8	35	46	12.2	13.1	14.3	15.4	16.7	18.5	20.9
11.0	40	48	12.2	13.2	14.3	15.5	16.8	18.6	21.1
11.1	45	50	12.3	13.2	14.4	15.5	16.9	18.7	21.3
11.2	50	55	12.3	13.3	14.5	15.6	17.0	18.8	21.6
11.3	60	60	12.4	13.3	14.6	15.7	17.1	18.9	21.9
Temperature correction									
.04			.04	.04	.04	.04	.04	.04	.05

CONVERSION CHART X — CORN

(For use with small grains roll)

All values converted to 77° F.
For each degree above 77° F. subtract temperature
correction from table reading.
For each degree below 77° F. add temperature
correction to table reading.

Use Corn Roll

Use Shims Marked "Corn"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
7.6	1	14	11.0	12.2	13.5	14.9	16.4	17.9	20.0
8.1	2	16	11.2	12.4	13.7	15.1	16.6	18.1	20.3
8.3	2.5	18	11.3	12.5	13.9	15.2	16.7	18.4	20.6
8.5	3	20	11.4	12.6	14.0	15.4	16.8	18.5	20.9
8.7	3.5	22	11.5	12.7	14.1	15.5	17.0	18.7	21.1
8.8	4	24	11.6	12.8	14.2	15.6	17.1	18.9	21.4
9.0	5	26	11.7	12.9	14.3	15.7	17.2	19.0	21.6
9.2	6	28	11.8	13.0	14.4	15.8	17.3	19.1	21.8
9.3	7	30	11.9	13.1	14.5	15.9	17.4	19.3	22.1
9.4	8	32	11.9	13.2	14.6	16.0	17.5	19.4	22.3
9.7	10	34	12.0	13.2	14.6	16.1	17.6	19.6	22.6
9.9	12.5	36	12.1	13.3	14.7	16.2	17.7	19.7	22.8
10.0	15	38	12.1	13.4	14.8	16.2	17.8	19.8	23.1
10.3	20	40	12.2	13.4	14.8	16.3	17.8	19.9	23.3
10.5	25	42	12.2	13.5	14.9	16.4	17.9	20.0	23.6
10.7	30	44	12.3	13.6	15.0	16.4	18.0	20.1	23.8
10.9	35	46	12.3	13.6	15.0	16.5	18.1	20.2	24.1
11.0	40	48	12.4	13.7	15.1	16.6	18.1	20.3	24.4
11.1	45	50	12.4	13.7	15.1	16.6	18.2	20.4	24.7
11.2	50	55	12.5	13.9	15.2	16.7	18.4	20.6	25.4
11.4	60	60	12.6	14.0	15.4	16.8	18.5	20.9	26.4
Temperature correction									
.05			.05	.05	.05	.05	.06	.06	.06

CONVERSION CHART XI - CORN

All values converted to 77° F.
For each degree above 77° F. subtract temperature
correction from table reading.

For each degree below 77° F. add temperature
correction to table reading.

Use Corn Roll

Use Shims Marked "Corn"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
8.0	1	14	11.6	12.8	14.2	15.6	17.2	19.1	21.6
8.3	1.5	16	11.7	13.0	14.4	15.8	17.4	19.4	22.0
8.6	2	18	11.9	13.2	14.6	16.0	17.6	19.6	22.4
9.0	3	20	12.0	13.3	14.7	16.1	17.8	19.8	22.7
9.3	4	22	12.1	13.4	14.8	16.3	17.9	20.0	23.0
9.5	5	24	12.2	13.5	14.9	16.4	18.1	20.2	23.4
9.6	6	26	12.3	13.6	15.0	16.5	18.2	20.4	23.7
9.8	7	28	12.4	13.7	15.1	16.6	18.4	20.6	24.0
9.9	8	30	12.5	13.8	15.2	16.7	18.5	20.7	24.4
10.0	9	32	12.5	13.9	15.3	16.8	18.6	20.9	24.7
10.1	10	34	12.6	13.9	15.4	16.9	18.7	21.0	25.0
10.3	12.5	36	12.7	14.0	15.4	17.0	18.8	21.2	25.4
10.5	15	38	12.7	14.1	15.5	17.1	18.9	21.3	25.7
10.8	20	40	12.8	14.1	15.6	17.2	19.0	21.5	26.0
11.0	25	42	12.8	14.2	15.6	17.2	19.1	21.6	26.4
11.2	30	44	12.9	14.3	15.7	17.3	19.2	21.7	26.8
11.4	35	46	12.9	14.3	15.8	17.4	19.3	21.9	27.1
11.5	40	48	13.0	14.4	15.8	17.4	19.4	22.0	27.5
11.7	45	50	13.1	14.4	15.9	17.5	19.4	22.1	28.0
11.8	50	55	13.2	14.6	16.0	17.6	19.6	22.4	29.5
12.0	60	60	13.3	14.7	16.1	17.8	19.8	22.7	31.4
Temperature correction									
.05			.05	.05	.05	.05	.06	.06	.06

CONVERSION CHART XII — ROUGH RICE (Tentative)

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Rice"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
6.0	1	14	9.9	11.0	12.2	13.5	14.8	16.4	18.3
7.0	2	16	10.0	11.2	12.4	13.7	15.0	16.6	18.6
7.2	2.5	18	10.1	11.3	12.5	13.8	15.2	16.8	18.9
7.4	3	20	10.2	11.4	12.6	13.9	15.3	17.0	19.1
7.5	3.5	22	10.3	11.5	12.7	14.0	15.4	17.2	19.3
7.6	4	24	10.4	11.6	12.8	14.1	15.6	17.3	19.5
7.8	5	26	10.5	11.7	12.9	14.2	15.7	17.5	19.7
8.0	6	28	10.6	11.8	13.0	14.3	15.8	17.6	19.9
8.1	7	30	10.7	11.8	13.1	14.4	15.9	17.7	20.2
8.3	8	32	10.7	11.9	13.2	14.5	16.0	17.8	20.4
8.5	10	34	10.8	12.0	13.2	14.6	16.1	17.9	20.6
8.7	12.5	36	10.9	12.0	13.3	14.6	16.2	18.0	20.8
8.9	15	38	10.9	12.1	13.4	14.7	16.3	18.1	21.0
9.1	20	40	11.0	12.2	13.4	14.8	16.4	18.2	21.2
9.4	25	42	11.0	12.2	13.5	14.8	16.4	18.3	21.4
9.5	30	44	11.1	12.3	13.5	14.9	16.5	18.4	21.6
9.7	35	46	11.1	12.3	13.6	14.9	16.6	18.5	21.8
9.8	40	48	11.2	12.4	13.7	15.0	16.6	18.6	22.1
9.9	45	50	11.2	12.4	13.7	15.0	16.7	18.7	22.3
10.0	50	55	11.3	12.5	13.8	15.2	16.9	18.9	22.8
10.2	60	60	11.4	12.6	13.9	15.3	17.0	19.1	23.5
Temperature correction									
.04			.04	.04	.04	.05	.05	.05	.06

CONVERSION CHART XII — ROUGH RICE (Tentative)

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Rice"

Dial H	Meter reading		Dial						
			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
6.0	1	14	9.9	11.0	12.2	13.5	14.8	16.4	18.3
7.0	2	16	10.0	11.2	12.4	13.7	15.0	16.6	18.6
7.2	2.5	18	10.1	11.3	12.5	13.8	15.2	16.8	18.9
7.4	3	20	10.2	11.4	12.6	13.9	15.3	17.0	19.1
7.5	3.5	22	10.3	11.5	12.7	14.0	15.4	17.2	19.3
7.6	4	24	10.4	11.6	12.8	14.1	15.6	17.3	19.5
7.8	5	26	10.5	11.7	12.9	14.2	15.7	17.5	19.7
8.0	6	28	10.6	11.8	13.0	14.3	15.8	17.6	19.9
8.1	7	30	10.7	11.8	13.1	14.4	15.9	17.7	20.2
8.3	8	32	10.7	11.9	13.2	14.5	16.0	17.8	20.4
8.5	10	34	10.8	12.0	13.2	14.6	16.1	17.9	20.6
8.7	12.5	36	10.9	12.0	13.3	14.6	16.2	18.0	20.8
8.9	15	38	10.9	12.1	13.4	14.7	16.3	18.1	21.0
9.1	20	40	11.0	12.2	13.4	14.8	16.4	18.2	21.2
9.4	25	42	11.0	12.2	13.5	14.8	16.4	18.3	21.4
9.5	30	44	11.1	12.3	13.5	14.9	16.5	18.4	21.6
9.7	35	46	11.1	12.3	13.6	14.9	16.6	18.5	21.8
9.8	40	48	11.2	12.4	13.7	15.0	16.6	18.6	22.1
9.9	45	50	11.2	12.4	13.7	15.0	16.7	18.7	22.3
10.0	50	55	11.3	12.5	13.8	15.2	16.9	18.9	22.8
10.2	60	60	11.4	12.6	13.9	15.3	17.0	19.1	23.5
Temperature correction									
.04			.04	.04	.04	.05	.05	.05	.06

CONVERSION CHART XIII-MILLED RICE (Tentative)

All values converted to 77° F.
For each degree above 77° F. subtract temperature
correction from table reading.
For each degree below 77° F. add temperature
correction to table reading.

Use Wheat Roll

Use Shims Marked "Rice"

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
7.4	1	14	11.9	13.3	14.7	15.9	17.1		
8.2	2	16	12.1	13.5	14.8	16.1	17.3		
8.4	2.5	18	12.3	13.7	15.0	16.2	17.4		
8.6	3	20	12.4	13.8	15.1	16.3	17.5		
8.8	3.5	22	12.5	13.9	15.2	16.4	17.6		
8.9	4	24	12.6	14.0	15.3	16.5	17.7		
9.2	5	26	12.7	14.1	15.4	16.6	17.8		
9.4	6	28	12.8	14.2	15.5	16.7	17.9		
9.6	7	30	12.9	14.3	15.6	16.8	17.9		
9.8	8	32	13.0	14.4	15.6	16.8	18.0		
10.1	10	34	13.1	14.4	15.7	16.9	18.1		
10.4	12.5	36	13.1	14.5	15.7	17.0	18.1		
10.6	15	38	13.2	14.6	15.8	17.0	18.2		
11.0	20	40	13.3	14.6	15.9	17.1	18.3		
11.3	25	42	13.3	14.7	15.9	17.1	18.3		
11.5	30	44	13.4	14.7	16.0	17.2	18.4		
11.7	35	46	13.4	14.8	16.0	17.2	18.4		
11.9	40	48	13.5	14.8	16.1	17.3	18.5		
12.1	45	50	13.5	14.9	16.1	17.3	18.6		
12.2	50	55	13.7	15.0	16.2	17.4	18.7		
12.4	60	60	13.8	15.1	16.3	17.5	18.8		
Temperature correction									
.04			.04	.04	.04	.05	.05	.05	.06

CONVERSION CHART XIV - SORGHUMS

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Sorghums"

Dial H	Meter reading		Dial						
			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
7.5	1	14	10.8	11.9	13.0	14.2	15.3	16.6	18.0
7.8	1.5	16	11.0	12.1	13.2	14.4	15.5	16.8	18.3
8.0	2	18	11.1	12.2	13.3	14.5	15.6	17.0	18.5
8.4	3	20	11.2	12.3	13.4	14.6	15.7	17.1	18.6
8.5	3.5	22	11.3	12.3	13.5	14.6	15.8	17.2	18.8
8.6	4	24	11.4	12.4	13.6	14.7	15.9	17.3	19.0
8.8	5	26	11.5	12.5	13.7	14.8	16.0	17.4	19.1
9.0	6	28	11.5	12.6	13.7	14.9	16.1	17.5	19.2
9.1	7	30	11.6	12.7	13.8	15.0	16.2	17.6	19.4
9.3	8	32	11.7	12.7	13.9	15.0	16.3	17.7	19.5
9.5	10	34	11.7	12.8	13.9	15.1	16.4	17.8	19.6
9.7	12.5	36	11.8	12.9	14.0	15.2	16.4	17.9	19.8
9.9	15	38	11.8	12.9	14.0	15.2	16.5	17.9	19.9
10.2	20	40	11.9	13.0	14.1	15.3	16.6	18.0	20.0
10.4	25	42	11.9	13.0	14.2	15.3	16.6	18.1	20.2
10.6	30	44	12.0	13.1	14.2	15.4	16.7	18.1	20.3
10.7	35	46	12.0	13.1	14.3	15.4	16.7	18.2	20.4
10.8	40	48	12.1	13.2	14.4	15.5	16.8	18.3	20.6
10.9	45	50	12.1	13.2	14.4	15.5	16.8	18.4	20.7
11.0	50	55	12.2	13.3	14.5	15.6	17.0	18.5	21.0
11.2	60	60	12.3	13.4	14.6	15.7	17.1	18.6	21.3
Temperature correction									
.04			.04	.04	.04	.05	.05	.05	.05

CONVERSION CHART XV — SOYBEANS

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Corn Roll

Use Shins Marked "Soybeans" (small)*

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
5.7	1	14	8.5	9.5	10.5	11.6	12.8	14.1	15.8
6.1	2	16	8.6	9.6	10.7	11.8	12.9	14.3	16.1
6.4	2.5	18	8.7	9.7	10.8	11.9	13.1	14.5	16.4
6.5	3	20	8.8	9.8	10.9	12.0	13.2	14.6	16.6
6.6	3.5	22	8.9	9.9	11.0	12.1	13.3	14.7	16.8
6.7	4	24	9.0	10.0	11.1	12.2	13.4	14.9	17.0
6.8	5	26	9.1	10.1	11.2	12.3	13.5	15.0	17.2
7.0	6	28	9.1	10.1	11.2	12.3	13.6	15.2	17.4
7.1	7	30	9.2	10.2	11.3	12.4	13.7	15.3	17.6
7.2	8	32	9.2	10.3	11.3	12.5	13.7	15.4	17.8
7.4	10	34	9.3	10.3	11.4	12.5	13.8	15.5	17.9
7.6	12.5	36	9.3	10.4	11.5	12.6	13.9	15.6	18.1
7.7	15	38	9.4	10.4	11.5	12.7	13.9	15.7	18.3
7.9	20	40	9.4	10.5	11.6	12.7	14.0	15.8	18.5
8.1	25	42	9.5	10.5	11.6	12.8	14.1	15.8	18.7
8.3	30	44	9.5	10.6	11.7	12.8	14.2	15.9	18.9
8.4	35	46	9.6	10.6	11.7	12.9	14.2	16.0	19.1
8.5	40	48	9.6	10.7	11.8	12.9	14.3	16.1	19.3
8.6	45	50	9.6	10.7	11.8	13.0	14.3	16.2	19.6
8.7	50	55	9.7	10.8	11.9	13.1	14.5	16.4	20.1
8.8	60	60	9.8	10.9	12.0	13.2	14.6	16.6	20.6
Temperature correction									
.05			.05	.05	.05	.05	.05	.05	.05

* For use in determining the moisture content of the size typified by such varieties as Laredo, Wilson, Virginia Brown, etc.

CONVERSION CHART XVI — SOYBEANS

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Corn Roll

Use Shims Marked "Soybeans" (large)*

Dial	Meter reading		Dial						
H			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
5.7	1	14	8.5	9.4	10.4	11.4	12.6	14.1	16.0
6.1	2	16	8.6	9.6	10.6	11.6	12.8	14.3	16.3
6.4	2.5	18	8.7	9.7	10.7	11.7	13.0	14.5	16.6
6.5	3	20	8.8	9.8	10.8	11.8	13.1	14.7	16.8
6.6	3.5	22	8.9	9.9	10.9	11.9	13.2	14.8	17.0
6.7	4	24	9.0	9.9	11.0	12.0	13.3	14.9	17.2
6.9	5	26	9.1	10.0	11.0	12.1	13.4	15.1	17.4
7.0	6	28	9.1	10.1	11.1	12.2	13.5	15.2	17.6
7.1	7	30	9.2	10.1	11.1	12.3	13.6	15.4	17.9
7.2	8	32	9.2	10.2	11.2	12.3	13.7	15.5	18.1
7.4	10	34	9.3	10.2	11.2	12.4	13.8	15.6	18.3
7.6	12.5	36	9.3	10.3	11.3	12.5	13.9	15.7	18.5
7.7	15	38	9.4	10.3	11.3	12.5	13.9	15.8	18.7
7.9	20	40	9.4	10.4	11.4	12.6	14.0	15.9	18.9
8.1	25	42	9.4	10.4	11.4	12.6	14.1	16.0	19.2
8.3	30	44	9.5	10.5	11.5	12.7	14.2	16.1	19.4
8.4	35	46	9.5	10.5	11.5	12.7	14.2	16.2	19.7
8.5	40	48	9.6	10.6	11.6	12.8	14.3	16.3	19.9
8.6	45	50	9.6	10.6	11.6	12.9	14.4	16.4	20.1
8.7	50	55	9.7	10.7	11.7	13.0	14.5	16.6	20.7
8.8	60	60	9.8	10.8	11.8	13.1	14.7	16.8	21.4
Temperature correction									
.05			.05	.05	.05	.05	.05	.05	.05

* For use in determining the moisture content of the size of Biloxi, Mamouth, Yellow, Tokyo, etc.

CONVERSION CHART XVII-VETCH

All values converted to 77° F.
 For each degree above 77° F. subtract temperature
 correction from table reading.
 For each degree below 77° F. add temperature
 correction to table reading.

Use Wheat Roll

Use Shims Marked "Vetch"

Dial H	Meter reading		Dial						
			G	F	E	D	C	B	A
Percent moisture	For ←	For →	Percent moisture						
		14	9.6	10.6	11.6	12.7	13.8	14.9	16.7
		16	9.7	10.7	11.7	12.8	13.9	15.0	16.8
		18	9.8	10.8	11.8	12.9	14.0	15.1	16.9
		20	9.9	10.9	11.9	13.0	14.1	15.2	17.0
		22	10.0	11.0	12.0	13.1	14.2	15.3	17.1
		24	10.1	11.1	12.1	13.2	14.3	15.4	17.3
		26	10.2	11.2	12.2	13.3	14.4	15.5	17.5
		28	10.3	11.3	12.3	13.4	14.5	15.6	17.7
		30	10.3	11.3	12.4	13.5	14.6	15.8	17.9
		32	10.4	11.4	12.5	13.5	14.6	16.0	18.1
		34	10.4	11.4	12.5	13.6	14.7	16.2	18.3
		36	10.5	11.5	12.6	13.6	14.7	16.4	18.5
		38	10.5	11.5	12.6	13.7	14.8	16.5	18.7
		40	10.6	11.6	12.7	13.7	14.8	16.6	18.9
		42	10.6	11.6	12.7	13.8	14.9	16.7	19.1
		44	10.7	11.7	12.8	13.8	14.9	16.8	19.4
		46	10.7	11.7	12.8	13.9	15.0	16.8	19.7
		48	10.8	11.8	12.9	13.9	15.0	16.9	20.0
		50	10.8	11.8	12.9	14.0	15.1	16.9	20.3
		55	10.9	11.9	13.0	14.1	15.1	17.0	20.6
		60	10.9	11.9	13.0	14.1	15.2	17.0	20.9
Tentative temperature correction									
			.04	.04	.04	.05	.05	.05	.05

